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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,372	08/20/2003	Patrick H. Buffet	RPS920030106US1	6420
47052	7590	04/04/2005	EXAMINER	
SAWYER LAW GROUP LLP			THAI, LUAN C	
PO BOX 51418			ART UNIT	
PALO ALTO, CA 94303			PAPER NUMBER	
			2891	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/644,372	BUFFET ET AL.	
	Examiner	Art Unit	
	Luan Thai	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,15,17,18,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,15,17,18,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/20/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is responsive to the amendment filed January 18, 2005.

Claims 1, 5-7, 15, 17-18 and 22-23 are pending in this application.

Claims 2-4, 8-14, 16, 19-21 and 24 have been cancelled.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

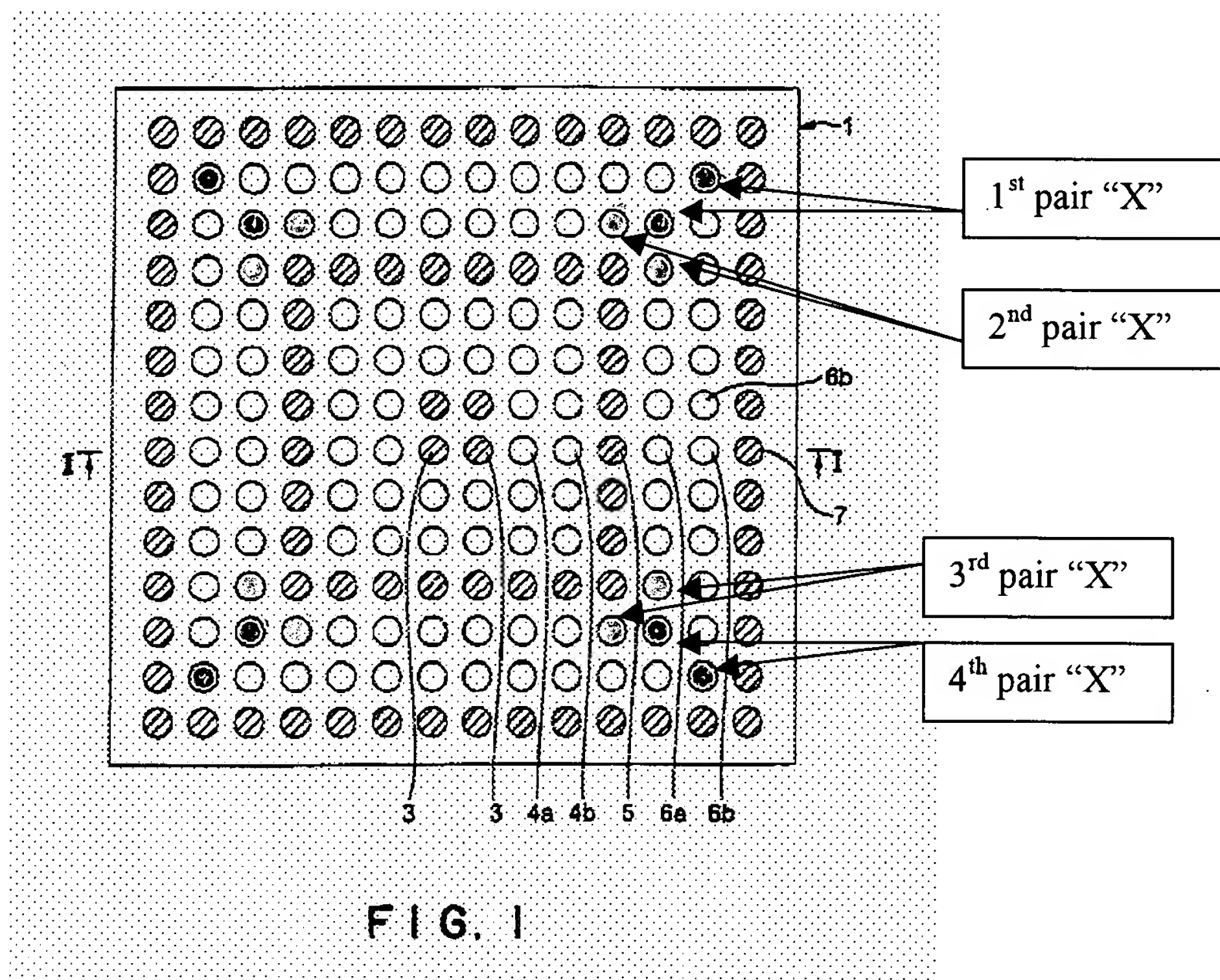
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-7, 15, 17-18 and 22-23, are rejected under 35 U.S.C. 102(e) as being anticipated by Arima et al (6,479,758 of record).

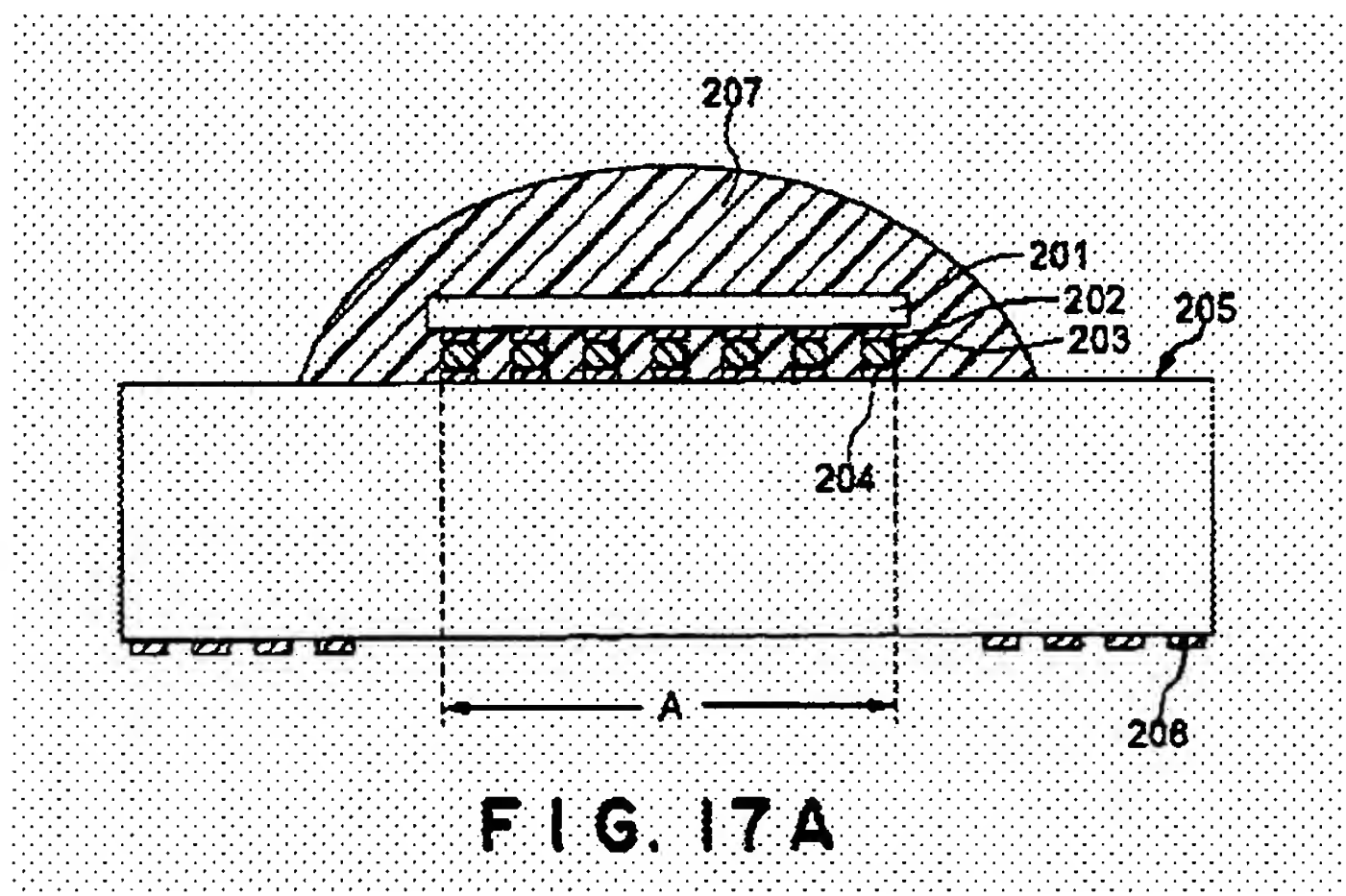
The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 5-7, 15 and 17, Arima et al (see specifically figures 1-2 and 17A attached) disclose a multi-layer semiconductor chip package, comprising: a plurality of pair of conductors (X) for carrying a plurality of signals in a layer of a carrier (205, see figure 17A) having a similar terminals arrangement as shown in figure 1 (Col. 8, lines 8-

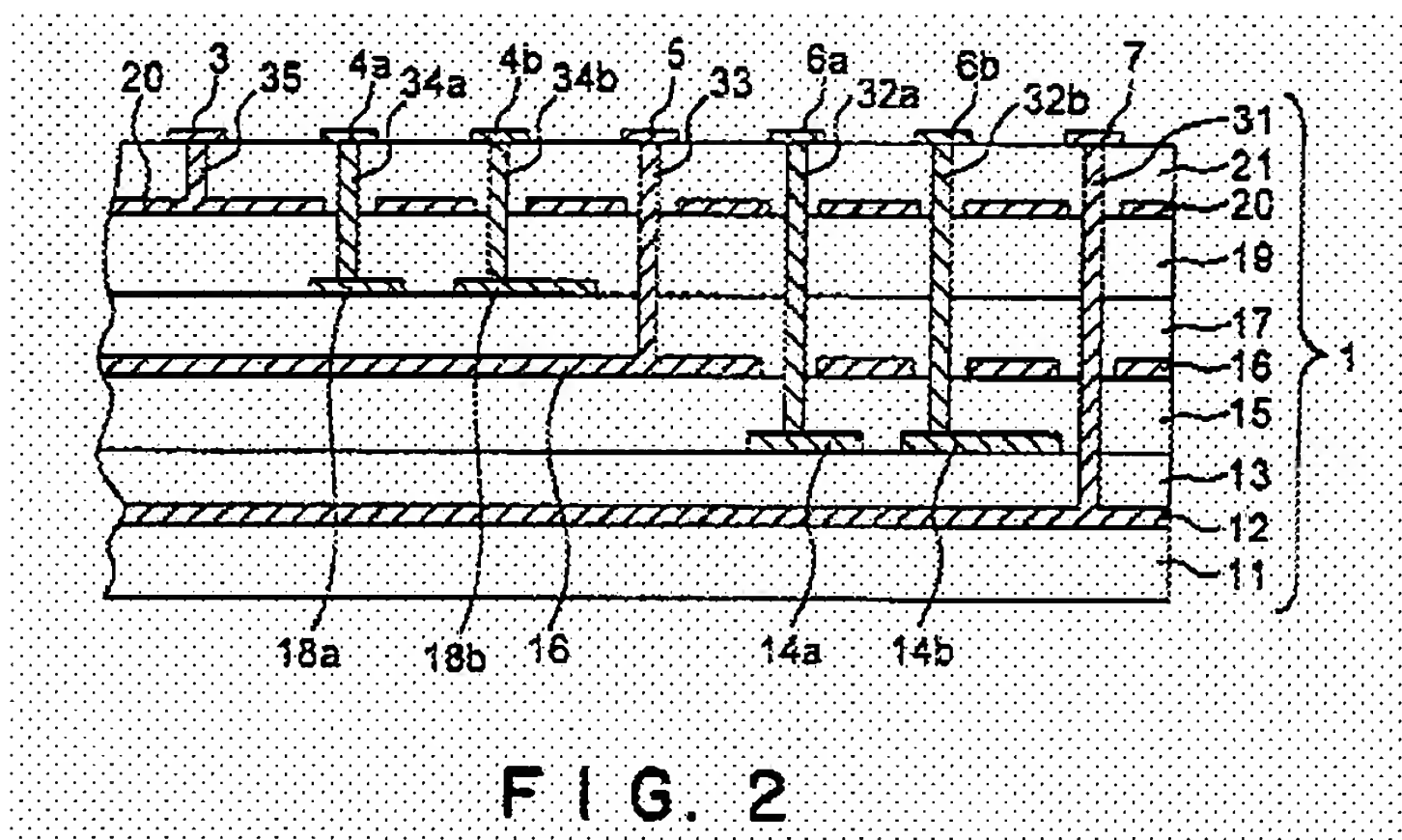


50); wherein the adjacent pairs of conductors (X) in the layer are positioned orthogonally and equidistantly to each other so that adjacent pairs of conductors (X) affect each other evenly, and wherein the layer is near an interface between the carrier and a chip (see figure 17A). By forming the package as described above, even if signal wiring are closely arranged, it is possible to prevent cross-talk from occurring and it is possible to prevent the size from (see the Abstract and Col. 2, lines 1-4, Col. 6, lines 16-25, Col. 8, lines 1-7, Col. 9, lines 41-44, Col. 10, lines 5-9, and Col. 12, lines 42-45).

Regarding claims 18 and 22-23, it should be noted that although claims 18 and 22-23 are "method claims", the method steps consist of the broad steps of "providing....,



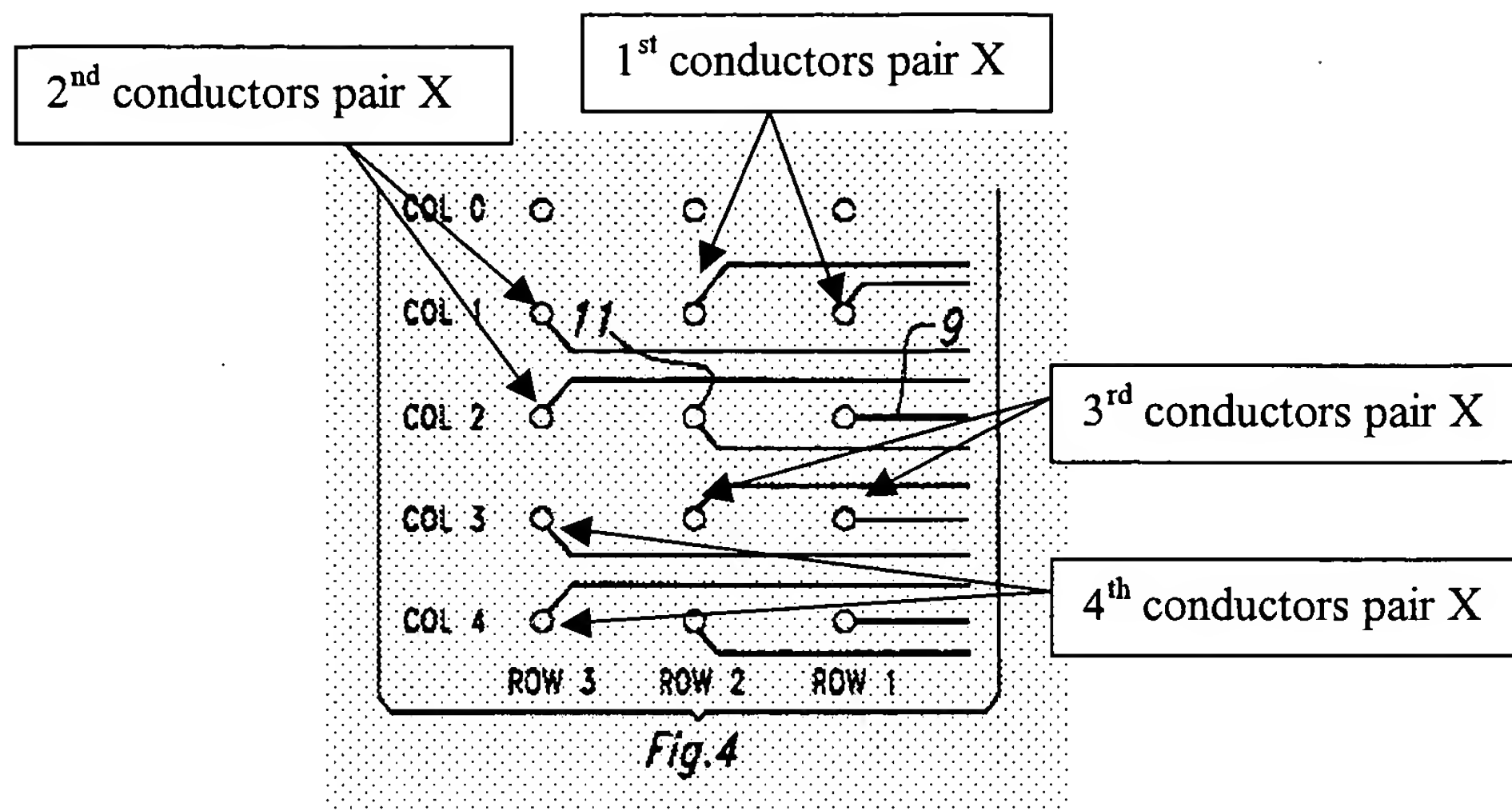
positioning.....etc.”; therefore, these steps would be inherently satisfied by the apparatus of the reference as modified.



3. Claims 1, 5, 15, 18 and 22, are rejected under 35 U.S.C. 102(e) as being anticipated by Stearns et al (6,215,184 of record).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 5, and 15, Stearns et al (see specifically figure 4 attached and Col. 2-3) disclose a multi-layer semiconductor chip package, comprising:



a plurality of pairs of conductors (X) for carrying a plurality of signals in a layer of a carrier (1) of the package, wherein the adjacent pairs of conductors (X) are positioned orthogonally to each other and affect each other evenly. Stearns et al. teach that the advantages of the layout described above are: improved electrical performance, suitability for high frequency applications and flexibility to use nearly all signal traces as differential pairs or single ended lines and reduced cross talk (see Col. 2, lines 56+).

Regarding claims 18 and 22, it should be noted that although claims 18 and 22 are “method claims”, the method steps consist of the broad steps of “providing...., positioning.....etc.”; therefore, these steps would be inherently satisfied by the apparatus of the reference as modified.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

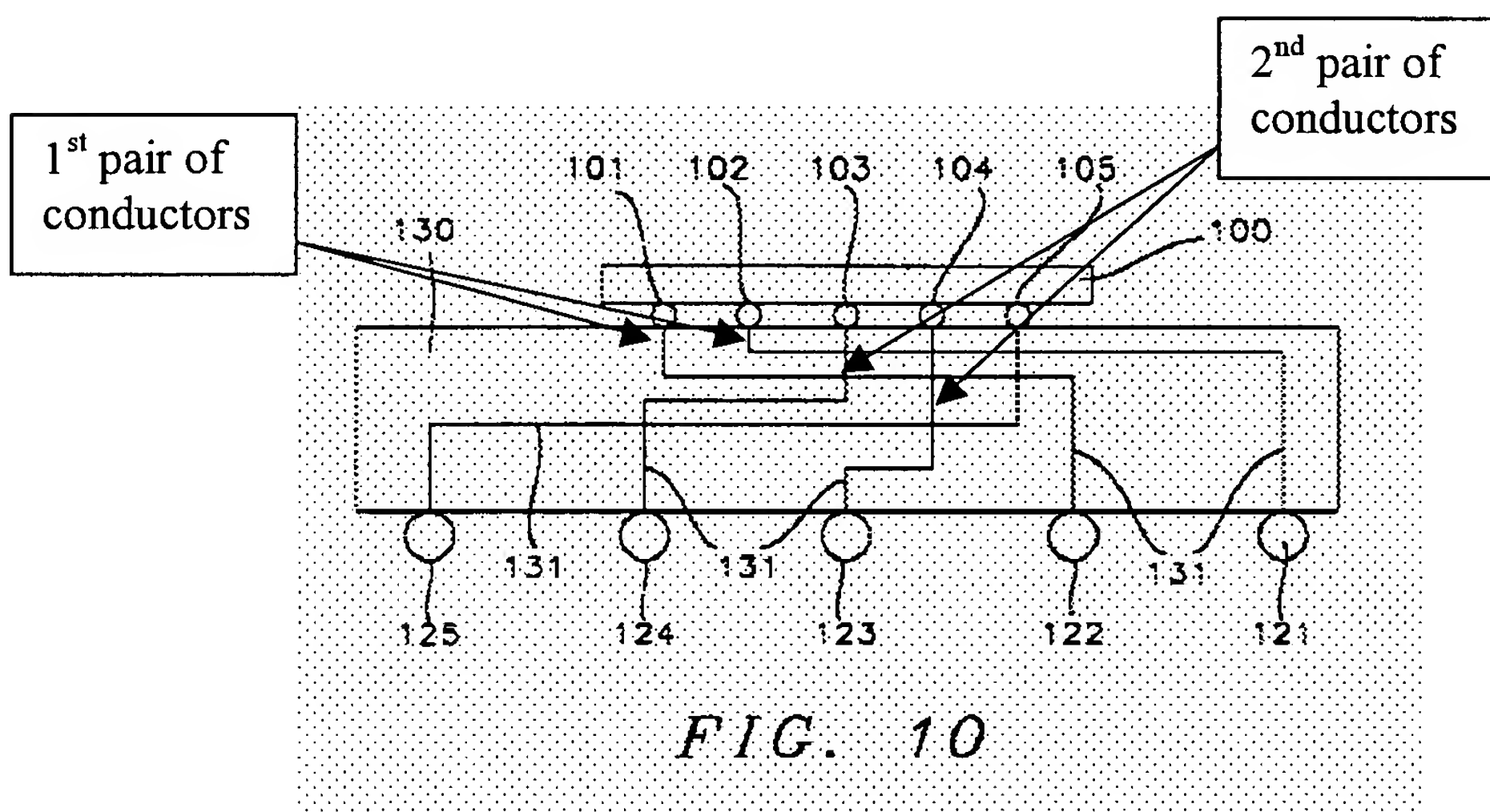
Art Unit: 2891

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7, 15, 18 and 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (6,657,310 of record).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 7, and 15, Lin discloses (see specifically figures 10) a multi-layer semiconductor chip package, comprising: a plurality of pairs of conductors, wherein the first pair of conductors are the vertical wirings (131) connected to bumps (101-102), for carrying a first signal in a layer near an interface between the carrier (130) and a chip (100), and wherein the second pair of conductors are the vertical wirings 131 connected to bumps 103-104, for carrying a second signal adjacent to the first pair of conductors in



the layer. Thus, all the claimed structure of the invention has been taught. Lin does not explicitly disclose cross-talk between the first and second pairs of conductors being substantially minimized.

Since applicant's claimed structures in claims 1, 7, and 15 do not distinguish over the Lin reference, the claimed of "cross-talk being substantially minimized" could have been obvious to be included in Lin's structure.

Regarding claim 18 and 23, it should be noted that although claims 18 and 23 are "method claims", the method steps consist of the broad steps of "providing...., positioning.....etc."; therefore, these steps would be inherently satisfied by the apparatus of the reference as modified.

Conclusion

6. Applicant's arguments with respect to claims **1, 5-7, 15, 17-18 and 22-23** have been fully considered, but they are deemed to be moot in view of the new grounds of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action because the amended independent claims 1, 15 and 18 raise new issues that would require further consideration and/or search. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

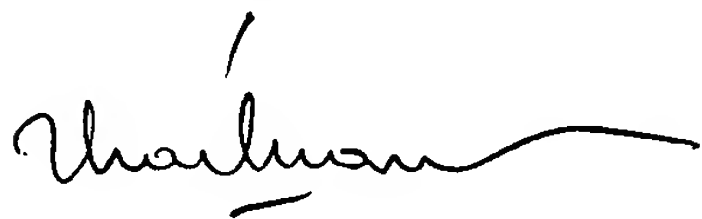
Art Unit: 2891

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is 571-272-1935. The examiner can normally be reached on 6:30 AM - 5:00 PM, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Luan Thai

Primary Examiner

Art Unit 2829

March 31, 2005